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| 09/725,393 | 11/29/2000 | Arnab Das | 3-9-56 | 9723 |

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EXAMINER

MYERS, PAUL R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2112

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/725,393

Applicant(s)

DAS ET AL.

Examiner

Paul R. Myers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/14/03 have been fully considered but they are not persuasive.

In regards to applicants argument that claims 1-14 and 16-23 were rejected under 112, second paragraph as being indefinite. The examiner notes the indefiniteness rejection was not addressed or corrected by applicants as such the indefiniteness rejection is maintained.

In regards to applicants argument that none of the references teach the data transmission rate is different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first rate indication message from a receiver: first the examiner notes applicants own specification indicates (Page 3 lines 22-23) that the rate indication message from a receiver can be channel conditions measured at a receiver. Sayeed et al teaches the receiver indicating the channel conditions measured (error rate correcting code see abstract error code identified as RS code) to the transmitter for determining rate. Sayeed et al also teaches the data transmission rate determined being based upon the full convolution code and the error correcting code (See column 6 lines 53-62). Thus it is based upon the rate indicating message from a receiver and other factors thus it is also different from the just the rate based upon the rate from the receiver. Bruckman teaches additional factors that affect rate determination such as allowable QoS and priority.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-14 and 16-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

All claims use either the term encoder packet or encoder sub-packet. The examiner does not know what an encoder packet is. The term encoder packet is present in the specification however it is not defined therein either. The examiner searched multiple sources including consultation with other examiners for a possible definition of this term in the art however the examiner was unable to find a definition of this term. The examiner will therefore assume it is a packet that is encoded. Clarification of this term is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 14, and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman PN 2002/0051466 in view of Sayeed et al PN 5,828,677.

In regards to claims 1, 2, 14, 16, 18, 20-21 and 23: Bruckman teaches channel coding packets to produce channel coded packets (See abstract); and puncturing (fragmenting) and/or repeating (transmitting) the channel coded packets to produce a first sub-packet (fragment)

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having a first size based on a size of the packet and a first data transmission rate at which the first sub-packet is to be transmitted (See abstract and paragraph 0026). Bruckman teaches the dynamic transmission rate control above. Bruckman et al also teaches the first data transmission rate is based on first measured channel conditions however these conditions are measured at the front end not the receiver. Sayeed et al teaches the common method of measuring channel conditions at the receiver and feeding that information back to the transmitter to adjust transmission characteristics (see column 6 lines 53-62). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the receiver condition measurements because this would have allowed for considering the entire channel not just a small part.

In regards to claim 3: Bruckman et al teaches recombining the sub-packets (by reassembler 34).

In regards to claims 4-5: Bruckman et al teaches the size of each fragment being individually determined and the size being variable within a range since packets are digital the sizes have only a discrete number of possibilities. Thus Bruckman et al teaches both the fragments being different sizes and the fragments being of the same sizes.

In regards to claims 17, 19 and 22: Sayeed et al teaches the use of Nak messages.

6. Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman PN 2002/0051466 in view of Sayeed et al PN 5,828,677 as applied to claim 1 above, and further in view of Buchholz et al PN 5,337,313.

In regards to claims 6-7: Bruckman teaches the dynamic packet size and rate as described above. Bruckman teaches adding a packet start and a packet end in accordance with the FRF.12 protocol instead of adding a packet size identifier. Bruckman states that while the

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invention is described in conjunction with the FRF.12 protocol it is not to be limited to that protocol. Bruckman also gives an example of the ATM protocol which includes a five-byte header but does not give details of the header information. Buchholz et al teaches a packet reassembly header (406) that includes a packet length field (660). It would have been obvious to a person of ordinary skill in the art at the time of the invention to include a packer size identifier because this would have allowed for the receiver front end to handle packet reassembly more efficiently.

In regards to claims 8 and 12: Bruckman teaches transmitting the fragments based upon their individual transmission rates however Bruckman does not expressly teach modulating the data. Official notice is taken that modulating data to transmit data is well known. For example Modems which stand for Modulator/demodulator. It would have been obvious to modulate the data because this would have allowed for the use of standard modems which have the advantage of having good resistance to noise on the wire.

In regards to claims 9 and 13: Bruckman states that it is not required to inform the receiver of the transmission rate however it is advantageous to provide the rate information to the receiver/reassembler paragraph 0027.

In regards to claims 10-11: Buchholz et al teaches a protocol field that indicate the packet protocol.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 703 305 9656. The examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703 305 4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305 3900.



PAUL R. MYERS
PRIMARY EXAMINER

PRM
January 15, 2004